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Rambling Notes and Observations.

By the Associate Editor.

Dear Cultivator: It was supposed that the weather for the last month was quite unfavorable for the young wheat, and that the plants would be either destroyed, or very much injured. A weeks ride across Trumbull and Mahoning counties, (or rather *through* them, it was *so* muddy!) has convinced me that these fears may be dismissed; as the frost is out of the ground and the wheat is every day looking fresher. There is an unusual number of acres now growing in this region, and the promise of plenty could hardly be fairer. A few fields of low clay grounds are much damaged by frost; but the rolling oak lands are already clothed in a bright green. The plow is moving, the sugar camps are open, the birds are with us, and spring has really come.

Preparatory to leaving, for a time, these loved haunts, I made a night with the family of Mons. Martin, of Braceville, chiefly to take leave of that dear child of Art, Md'lle. Mary. This is a sister of Lillie Martin Spencer, whose paintings have elicited so much praise from visitors at the American and Cincinnati Art Unions. Here I lodge in a chamber peopled with the fairy creations of this young artist.

The question is often asked me, if the Osage Orange can be successfully cultivated on the Reserve. I have no doubt it can be. I saw at Berlin, in front of the grounds of Capt. J. Nickum, (John was one of my captains in the model battalion at camp Ringgold) a hedge of Osage Orange of two years growth, *alive and well;* and this on as flat a spot of ground as there is in Mahoning county. Also on the grounds of J. M. Edwards, of Canfield, there are thriving plants of three years; many others, even better than these, are to be found both in Mahoning and Trumbull. If the growth is not too much forced during the first few years, I think there can be no doubt that we may succeed in obtaining good hedge rows of Osage Orange.

At Canfield, I met my friend of yore, the accomplished lady of J. M. Edwards, of the State Board of Agriculture, and her choice stock of house plants, and mimic flowers, and dearer human blossoms, busily engaged in completing a beautiful painting of the interview of Augustus with Cleopatra. Her home is the abode of taste and elegance.

Two hours went rapidly by while in the laboratory of B. Kirtland, at Poland. I found him up to his elbows in coal dust and a hundred other chemical bedabblements, going on with his analysis of the plum. His operations are managed with great care and pre-

cision. His scales will register the two hundredth part of a grain. His weights of minute platinum wire are hardly visible, as he picks them up from a glass tablet, with fine steel forceps. Mr. Kirtland's skill is finely set off by his unaffected modesty; and he pursues his favorite investigations with a relish heightened by no mercenary motive.

Josiah Robbins, jr., of Niles, is pursuing a series of experiments with manures, the use of lime, &c., the result of which we may expect some day to receive from his own pen. Speaking of the propriety of using roller upon wheat that is thrown out by frost, he described a novel expedient resorted to by some one of his acquaintance, which is said to work to a charm. A man with a dish of salt or grain, entices a large flock of sheep to follow him across the field, back and forth, till the whole is tramped in, where it may take root again and grow at leisure. I suppose this will fall within the category of innocent deceptions, where the end justifies the means. I hope the man who originated that idea, will be in for a premium at the State Fair, and show how he did it.

Passing through Ellsworth, I took another look at J. C. Catlin's chickens. Since the notice published on the first of February, his orders for fowls and eggs, from Ohio and Kentucky, show that blooded poultry is looking up. S. D. HARRIS.

Trumbull Co., O., March 5, 1851.

Farm Accounts. No. 1.

In conversation with farmers of my acquaintance—men of intelligence, who are honorable and correct in all their business relations—I am often surprised, to find that they have no system of *accounts* with their business—no plan more certain than *guess-work*, of knowing whether they are yearly advancing in wealth; barely making a living; or actually losing ground, and becoming poorer—and last, though not least, no plan equal to REAL *Yankee guess-work*, for determining the relative advantage derived from the production of different crops, or the rearing of different kinds of stock.

This should not, need not be so.

The true object of the farmer, is not so much to lay out broad fields; to count his herd by scores, and his flock by hundreds; as to derive the greatet nett profit from the fields laid out, or from the flocks and herds. And to attain this object with certainty, strict system is indispensable, not a complicated system, requiring deep study. and involving the use of *day book, journal, ledger and balance sheet;* but a plain and simple, yet strict and accurate system, easily adopted by every farmer who reads the Cultivator.

How rarely do we find a farmer who would trust his neighbor with bushels of wheat, corn, or oats, and day's work after day's work of himself and team, and make no memorandum of the matter for future reference, that he may upon settlement, know whether his neighbor has repaid all, and why should he trust the five, or the twenty acre field with the labor of men and teams, and with bushels of seed, and neglect keeping the proper memoranda to enable him by and by to settle with the field, adjust the balance, and know whether the field, or the crop upon it, has repaid advances.

"But what," some one may ask, "if you plow and sow a field with wheat, would you charge the labor and seed to the field?"

Most certainly; and when the crop is harvested there is no guessing, to tell whether it was a profitable, or an unprofitable crop.

"And if the field did not repay your list of charges, would you give some lawyer a job?" humorously asks another.

Oh, no, I should think that like all other law-suits, better let alone, but I should bethink me of taking better security next time I had dealings with the same field; in other words, I should conclude that a different mode of culture, or a different crop, would do better, and by reference to the account, I should know, without trying to remember,—all the particulars about the crop that did'nt pay its debts.

There is a little dark office near the Merchants' Exchange, in Wall street, New York, where the New York merchant, by paying a trifle, may learn the name of every dealer in the United States, who has failed to pay his debts, for the last few years; this they learn from Mr. Tappan's black list,—and the farmer, with less expense, may prepare a list from which he can any time, give a full history and description of the crops he may have trusted, which, with the same treatment, are not worthy of credit, at the same time he forms an intimate acquaintance with those crops which did fulfil his largest wish.

That "like causes produce like effects," is not less true in the business of agriculture, than in any other. The hurricane, tempest, flood or fire may destroy our property, and disappoint our hopes, but to these casualties mankind must ever be subject. The law governing the relation of cause and effect still holds good, and upon the sequence of the one after the other we may ever depend.

If this is true, he that determines by strict experiment—counting every expense, the profits derived from the production of crops of corn, wheat or oats, or from the rearing of cattle, horses, hogs, or sheep, is certainly more sure of success, than he who, without knowing what course is best, goes on year after year, as convenience or chance may dictate.

Let those who read this article, give a few moments thought to the subject, and they will rapidly perceive the great advantage it would be to them to know with certainty, which branch of their business pays best, as also what mode of conducting their business, in its different branches, will be most successful.

And, unless some better hand takes up the subject, I propose giving in future numbers, a plan of farm accounts, which, practiced by myself, has enabled me to determine with accuracy, in regard to questions which were long doubtful with me, and from a solution of which doubts, I have already derived great benefit.

ARATOR.

Lucas County, February, 1851.

☞ We welcome *Arator* to our columns, and hope we may hereafter be often favored with articles from his pen.—ED.

On the use of Lime as Manure.

ESTEEMED FRIEND: Observing that an invitation is given in the Cultivator of 2d mo., 15th, to those who have used lime on Ohio lands, to communicate their experience; and that no such communications appear in the succeeding number, I am willing to give mine, which (owing to the low rate at which we here obtain lime) has perhaps been more extensive than that of many young farmers in portions of the State where it is less abundant.

Since living upon the farm I now occupy, I have burned three kilns; one of 2,000 bushels, one 1,000, one 3,000—and although our land is for the most part a lime stone clay, I have found it in every application to be a most valuable manure—but upon no crop is the effect so evident the first season, as upon red clover. The first I applied was spread in the winter of 1845, upon red clover sown the preceding spring, and upon wheat sown with timothy in the fall. I aimed at putting about 100 bushels per acre, but owing to the inexperience of myself and help, put in some places

much more and in some less, the effect upon the clover was astonishing; the poorest spots in the field, and where at the time of application I could only discover a few scattering sprigs of clover, were, before midsummer, covered with a luxuriant crop; there was no discernable effect produced upon the growth of the wheat, but when threshed, I found the grains larger than those of the same variety where lime was not used; the timothy with wild grasses which grew spontaneously soon covered the ground with a thick sward, and it has ever since yielded more pasture than before. I have since spread it upon corn ground before plowing in the spring, as also after plowing and before planting, and upon the growing corn—have also used it upon oats ground which was to be followed by wheat, and from my own experience and watching the results of my neighbors' operations have concluded that the best way is to apply it in the winter or spring to sward ground intended for oats, corn or barley to be succeeded by wheat and as a top dressing for grasses. The effect upon the summer grain is not generally very evident, but when the ground is plowed in the fall the lime together with the vegetable matter which composed the sward is thrown to the top, which when harrowed thoroughly is a complete mechanical mixture, and being now exposed to the atmosphere rain, light, heat and cold, chemical action is induced and facilitated, highly favorable to the growth of the grain and grass seed sown thereon. I think also that our soils might be enriched to an incredible degree by turning under every second year a crop of clover dressed with lime; the intervening year a summer crop of corn, oats or barley might be raised, and of ordinary seasons considerable pasturage might be had from the clover without robbing it materially.

In this connection I may say that some of our best farmers have for two or three seasons past sowed corn ground in clover, as recommended in a late number of the Cultivator, and are pleased with the result.

I would concur with the editor, in the remarks accompanying the interrogatories in regard to spreading lime in the winter—because if applied when the process of sowing and harrowing in is going on it would be better mixed with the soil, but at the same time I would not advise any one, who, like G. D. had not made the application at that time to defer it entirely for that crop on account of the liability to wash away which I consider very small except where the soil would go with it—for it is a singular fact that hydrate of lime (the form in which the heavy rains of spring would be sure to find it) is more soluble in cold than warm water—hence much of it would be dissolved and the soil, always porous at that season of the year, would retain it.

I tried an experiment on growing corn last season, which I would especially recommend to those who have lime and not in sufficient abundance to cover the whole surface of the ground, which was this—I mixed one barrel of common salt with 12 bushels slaked lime, and applied the mixture to 8 acres of corn when it was 3 or 4 inches above the ground, at the rate of 1 table spoonful per hill. We left six rows in an average part of the field to test the experiment, and in a few weeks could observe a difference in their growth, and the difference still more apparent in the grain, there being many more soft and small ears where the mixture was not applied.

J. D. LADD.

Richmond, O., 3d mo. 7th, 1850

MACHINE FOR SAWING WOOD.—A subscriber who desires a more particular description of Mr. Stowe's machine for sawing wood, described in our paper of last year, No. 3, is informed that an engraving would be necessary, and we cannot give one at present.

From Agricultural Report of Patent Office.

Use of Lime and Plaster.

The judicious application of manures to land, involving, as it does the *feeding* of *plants*, is a matter of the greatest practical importance to the cultivator of the soil. On no subject is there more difference of opinion among farmers, than as to the benefits to be derived from the use of lime as a fertilizer. These opinions are based on individual experience; and so far as that particular locality on which the experiment was made is concerned, the results and inferences derived therefrom are usually correct. For instance, one farmer applies 20 bushels of lime per acre, and the result is that his crop is nearly doubled. Another man, in the same neighborhood, perhaps, makes a similar application, and finds the produce of his field not at all increased. Now the failure in the latter case arose solely from the fact that the nature of the soil was not understood, and other elements than lime were wanting in its composition. It requires a very close study of the nature of soils, and of the rocks on which they rest, as well as of the elements of the plants to be grown upon them, to enable the intelligent farmer to apply such fertilizers as will best promote the growth of healthy and vigorous crops. These preliminary remarks are necessary to explain the cause of the somewhat conflicting statements which will be found in the following extracts.

Mr. S. Hale, of Keene, N. H., says:

"Plaster is used very generally on the Connecticut river meadows in this county with good effect. It is supposed to exhaust the land by increasing the crop. Land thus exhausted can be restored by the use of ashes. In other parts of the county, except in particlar localities, it has not been found beneficial. In Keene, which is situated in a valley, once the site of a lake, it has been often tried without benefit. The soil is sandy, formed by the disintegration of the rocks on the surrounding hills. Some of these contain *sulphate of iron*, most of them a greater or less proportion of lime."

Mr. Dean, of Manchester, Vt., writes:

"Plaster, ashes, and lime are the best fertilizers for our lands. Plaster is worth $10 per ton; ashes and lime 16 cents per bushel. Twenty bushels of the latter applied once in three years is my method."

Mr. Wells writes from Northampton, Mass.:

"Plaster is used here to some extent on warm lands and would be much more used were it not for the expense, as it costs nine to ten dollars per ton. Bone dust has lately been introduced, and has proved very beneficial, although the quantity as yet used is small. If lime could be had at a price which would justify its use, it would add much to the products of our lands."

Mr. Wm. Lapham, of Mt. Tabor, Champaign county, Ohio. writes as follows:

"We have used plaster and clover as a preparation for wheat, and have found great benefit from them. Our soil is a sandy loam, with a subsoil of clay, resting on a substratum of gravel. Portions of it have been in cultivation for twenty and thirty years. The plaster is obtained from Lake Erie by railroad, and costs when delivered here, four dollars per barrel of 400 pounds, or one dollar per hundred, ground and ready for use. Our method of using these fertilizers is to sow the plaster at the rate of one bushel per acre on the young clover in the spring. In the second or third year the fall crop of clover is plowed under, and the wheat sown immediately. The clover is sometimes sown in the spring on the growing wheat, and harrowed in; but we succeed best in sowing the clover

with oats. The direct effect of the plaster upon the clover is very great, and the benefit to the succeeding wheat crop is also very apparent. The general influence of plaster and clover has been to permanently increase the fertility of our soils."

Mr. John Kuhn, of Ashland County, O., says:

"The soil here is a heavy clay, and, so far as my experience extends, the application of lime and plaster to this land is money thrown away. But all kinds of animal and vegetable matter, and ashes leeched and unleeched, are highly beneficial to grains, grasses, and root crops."

Mr. J. M. Nesbit, of Lewisburg, Union county, Pa., gives the following as the result of his experience on this subject:

"During the last few years lime has been used in large quantities in this part of Pennsylvania, and I believe the effect has been uniformly beneficial on all soils. The quantity applied per acre varies from 50 to 100 bushels; depending upon the circumstances of the farmer, the convenience of procuring it, and the nature of the soil. I have not observed, from my own experience, much difference in the immediate effect of the lime, whether applied in large or small quantities; but it is fair to presume, that if the quantity be large, a repetition will not so soon be necessary on the same ground. In 1840 the cost of lime at the kiln was ten cents per bushel. Now it can be had in any quantity for six cents, and in some cases for five cents. The cause of the reduction in price is, that formerly wood alone was used as fuel for burning it—now it is burned with the screenings, or waste coal, from the mines, thus greatly economising the cost of the lime, and also affording a fair price to the miner for that which would otherwise be valueless to him. I should here observe, that since we have commenced the application of lime to our lands, we have ceased the use of plaster. After a number of experiments, we are satisfied that the effect of plaster is completely *neutralizd* by the lime previously applied to the same soil. How long this result will take place after the lime has been applied to the soil, our experience is of too limited a character to determine. But we have observed the same effect, after a lapse of five years. We shall continue our experiments, in order to determine whether it will hereafter become expedient to apply lime and plaster to the same soil; or whether the lime will combine with the acid in the soil and form a sufficiency of *sulphate of lime* to obviate the necessity of any direct application of it to the growing crop."

Mr. Morgan, of Kempsville, Va., says:

"The opinions in regard to the quantity of lime that can with safety and profit be applied per acre, are various, ranging from 50 to 500 bushels. The judicious application of this great renovator must of course be regulated by the chemical composition of the soil."

Mr. Henry B. Jones, of Browsnburg, writes:

"Plaster is very much used in the valley of Virginia. No good farmer will do without it for his clover crop. It is generally used mixed with an equal quantity of of ashes. Lime is also beginning to be used, and from 50 to 100 bushels per acre are applied with great success on wheat lands."

Mr. Ruff, of Xenia, Ohio, writes thus of the effects of lime and plaster:

"I used plaster the present year for the first time on clover, and find that it has doubled the yield. On corn its action is not so great: nor are its effects so apparent on any other grass as on clover. If it were cheap, it would doubtless add much to the fertility of our soils, and to the agricultural prosperity of this section of the country. I have used lime for a number of years, by way of experiment, in both large and small quantities, and have found it to be entirely worthless—its effects being merely perceptible the first year, and not at all afterwards. The results of experiments in other parts of the State are reported different."

Mr. Edward Kohler, of Lehigh Co., Pa., writes:

Thenty-five and thirty years ago, the best and most economical mode of applying lime to arable land as a manure, was in a caustic state, fresh from the kiln; but after two or three applications its effect gradually diminished, until of late it has frequently been, the first season after the application was made, more injurious than beneficial.

In the month of August, 1946, I limed a portion of a fallow field, of a thin gravelly soil, resting upon a roofing slate rock, which had been limed several times before at intervals of from five to six years, but no other manure applied. The lime was drawn fresh from the kiln, and deposited in small heaps of half a bushel each, seven paces by eight asunder. The weather was warm, the lime soon became pulverized without the aid of water, and was then immediately spread and harrowed in. Early in the month of September following, the whole field was sown with rye. At harvest there was not the least perceptible difference in grain or straw, in the yield of the limed and unlimed portions of the field. In 1948, the same field was again sown with rye, but at the last harvest there was a marked difference perceptible, both in grain and straw, in favor of the limed portion of the field.

In the month of June 1847, I limed an adjoining field of similar soil, and under similar treatment. The lime was deposited in heaps of from 20 to 30 bushels each. In the latter part of August following, the lime was spread at the rate of about 35 bushels per acre and immediately harrowed in, and, in a week or two after, the field was sown with rye, which yielded at the following harvest the heaviest crop the field ever produced.

In the fall of 1848, a neighbor of mine hauled a quantity of lime on a meadow of a dry gravelly soil, in heaps of about 20 to 30 bushels each; last spring the lime was spread, but at what rate per acre, I am unable to say. Judging it, however, at between 50 and 60 bushels per acre, the yield was about one-third more grass than usual. The same neighbor applied lime last season, thus prepared, to his corn crop growing on a limestone soil, and with marked success.

Flax Culture---Thick and Thin Sowing.

Editors O. Cultivator: In the early part of last month I addresed a short article to your paper, calling the attention of farmers to a series of articles by W. G. Edmundson, (two numbers of which had then appeared) on the cultivation of flax for seed and fibre. My article not appearing in the Cultivator of Feb. 15, as I expected it would, I concluded that you did not consider it of sufficient importance to justify its publication, and dismissed the subject of the letter from my mind. But in the Cultivator of the first inst., Mr. Edmundson, at the close of his flax essay, has a P. S., in which he says: "Mr. Bateham has just shown us a letter written by G——, of Berkshire, Delaware Co., O., in which some questions are raised in relation to the applicability of our system to the soil and climate of Ohio."

Mr. E., after positively condemning the prevailing practice in Ohio, of sowing from two to four pecks of seed to the acre, insists that "at least two bushels of seed should be pown per acre, and on many soils from nine to ten pecks would be preferable to a less quanti ty per acre."

The amount of seed that in the above paragraph is positively asserted to be necessary to insure a good crop induced me to inquire in what latitude and soil his experiments had been made; and in the P. S. to his essay he answers in latitude 44 degs. north. Now I strongly suspect that all the *practical experience* in raising flax that the gentleman ever had south of latitude 44 degs., has been acquired within twenty months last past, by riding over a portion of the State of Ohio, and by writing articles on the subject of experimental farming.

Mr. E. seems to intimate that because wheat sprouts from the root thus producing several stalks from one seed, that flax seed should be sown thicker than wheat because it does not sprout from the bottom of the stalk; but he does not consider that there are four times as many seeds in a bushel of flax seed as there are kernels in a bushel of wheat, and that flax stalks show from three to five branches near the top, when not crowded, all of which branches produce seed as well as the main stem, whereas wheat will never show but one head to the stalk—standing no thicker together at the heads than at the roots.

I think it probable that in a higher latitude than this more seed is sown for different crops than would be profitable here; and in a more southern latitude famers seem to use less seed; for instance, a farmer in Vermont writes that on a soil highly manured, he raised the average of 128 bushels of oats per acre, on a field of four acres, and that he sowed four bushels of seed to the acre. Such a course of proceeding, with our soil and climate, might have produced a heavy growth of straw, but nothing more.

I have no doubt that Mr. Edmundson has frequently harvested thirty bushels of flax seed and four hundred pounds of clean skutched flax to the acre, from land sowed at the rate of nine pecks of seed to the acre; but this was in latitude 44, and perhaps on a soil as different from ours as the difference in the climate between the parallels of 40 and 44.

Mr. Wm. C. Dickinson, writing to the Patent office from Georgia, says the usual quantity of wheat sown to the acre is three-fourths of a bushel—of oats three pecks to a bushel. This looks as if climate and soil might have something to do with the quantity of seed of different kinds proper to produce a crop.

One word as to the kind of soil favorable to the production of a large crop: Every farmer in central Ohio knows that the tendency of the soil, especially if it abounds in vegetable mould, is to throw forward the stalks of either grain or grass so rapidly that it is very likely to fall without perfecting its seed; consequently if we sow wheat on rich land it is almost sure to lodge unless it is kept back by pasturing stock upon it. Flax we cannot pasture, and therefore if sown on rich land abounding in vegetable mould, it will fall and perfect very little seed; but if we sow not exceeding three pecks to the acre, the stem grows much larger and stronger than when sowed thick, and is not so likly to fall—but every stalk will throw out branches within from six to ten inches of the top, so that the flax will be very thick at the top, while it is thin at the ground. If the ground on which flax seed is sown is somewhat worn, more seed should be put upon the acre, because it will not grow so tall, will branch less near the top and will have less tendency to lodge.

Farmers in this region have been raising flax for seed for the past five or six years; they began by sowing from sixteen to twenty quarts per acre; they are now increasing their seed to from three pecks to one bushel per acre, according to the strength of the land on which they sow. I knew a field of ten acres sowed with thirteen bushels of seed, and another field of ten acres sowed with eight bushels; both fields were well put in and taken care of, but the field on which the smallest quantity of seed was sown produced the largest crop of seed. I should have said that both fields were sowed the same season and that the soil of each was a clay.

Many of the suggestions of Mr. Edmundson in his essay on flax culture are undoubtedly excellent, but I fear that farmers will have cause to regret it if they sow two bushels of seed to the acre on land abounding in vegetable mould, especially if their principal object in raising flax is for the seed.

Respectfully, G——.

Berkshire, O., March, 1851.

Another Letter on Sowing Flax Seed.

Mr. Bateham: In the article on flax culture, in the Cultivator of Feb. 1st, the writer, (Mr. Edmundson) states that there ought to be at least two bushels of seed sown per acre, for the purpose of raising a crop of seed. In this I think he is certainly in error. I have raised this crop for a number of years past, and several of my neighbors have done the same. But I have never known more than three pecks of seed to be sown per acre, and half a bushel is the common rule with us in Montgomery county.

I think if as large quantity was sown as Mr. E. recommends, the plants would stand so thick that very little seed would be produced, for I have noticed where the seed by accident was sown too thick the plants were small and spindling with few bolls of seed. I have spoken with several of our old flax growers on this subject, and they agree with me in the opinion that if sown at the rate of two bushels per acre the crop would produce no seed in this climate, whatever may be the case elsewhere. I would like to hear the opinions of others on this subject.

Centreville, O., March 3, 1851. W. P. P.

Remarks.—We will thank our correspondents at all times to contradict any statements or advice that appears to them clearly erroneous in the columns of the Cultivator, only taking care to give facts and experience to sustain their opinions whenever the circumstances will admit—as mere opinions of course have but little weight with readers.

In regard to the quantity of flax seed to be sown per acre, we have but little knowledge personally. We know that more seed is required when the crop is designed for fibre than for the seed alone; and as Mr. Edmundson's essay was designed to combine both objects, it was proper that he should advise thicker sowing than is common where seed alone is the object. We do not know how much if any allowance should be made for the effects of difference in climate—we apprehend but little—and it is certain that the quantity of seed recommended (two bushels) is less than is used in countries where fibre is the main object; as we find that English and Irish writers recommend 2¼ to 2½ and even three bushels per acre.

We think it very probable that our friend E. put the rate of seeding somewhat too high for a crop designed mainly for the seed, but we also believe that the common practice of our farmers is quite too low—and the surest practice will be a medium between the two. We hope some of our readers will give Mr. E's. plan a fair trial, both the soil and seeding.—Ed.

Flax Dresser.—Mr. S. A. Clemens, of Springfield, Mass., has invented a machine for dressing flax, which will dress from the raw material one ton of flax per day, leaving it clean and ready for market.

Jewett's Design for Milk House and Ice House.

Gentlemen: You find presented a plan for an ice-house and milk-house both under one roof. The size of the building must be according to the wants of the farm, for ice and the dairy. For a dairy of 20 or 30 cows, I would recommend a building 18 by 29 feet, and if larger I would preserve the same width, but extend in length. The ice-house is to stand some eight feet below the surface of the earth, say 12 by 18, including walls. Then there is a space for milk or roots in the cellar, 12 by 18 feet. The walls of the ice-house carried 2½ feet above the surface, with ventilators between the sills and ground, which may be made of double windows.

The milk room above occupies the whole building 18 by 24, with a partition across one end, making the smallest room 10 by 18 feet, and the posts should be about 15 feet high. The inside of the building all to be lathed and plastered or ceiled on the walls and rafters, so as to form a hollow wall all around of six inches, with a double roof. Thus the roof is high and airy.

The warm air ascends. Under the room *B* is the ice, also four feet in width under the room *A*, represented by lattice work. (See fig. 3.) The object of this lattice work is to let the cold air rise through the opening into both milk rooms. This lattice work is dropped six inches below the main floor, to be moved all, or a part of it at will. When the main floor is all laid down above the lattice floor, no cold air can rise into the milk rooms. The ventilators under the sills in the outside walls can be opened, also an outside door which may enter the milk room or place for roots below. All the cold air from the ice house may be conducted into the smallest room, or all may be conducted into the larger room, *A*.

The large doors you observe in the upright part, are for the purpose of driving a team loaded with ice thro' if necessary. Or if you have a spring handy, the large doors may be left open in severe winter weather, and a jet of water, by the aid of lead pipe, may be so raised in the large room, in a mist or spray, and fall into the ice cellar to be congealed into one solid block of ice. Ice formed in this manner is more durable than that collected from ponds or the river. Shutters should be attached to each window; the rooms can be darkened and made tight if necessary.

Respectfully,

Solomon W. Jewett.

Vermont, 1850.

— *Ohio Agricultural Report*, 1850.

The Flavor of Butter and Cheese, as affected by the kind of Pasturage.

It is well known that the milk of animals is readily affected by the quality of food used for its production. Now, as certain kinds of herbage are found to impart an unpleasant flavor to milk and butter, why may we not conclude that other kinds will be likely to improve the ordinary flavor of these important products? We think the subject is one deserving the experiments of the farmer and the investigations of the chemist.

In our paper of June 15, 1846, was published an article by G. Emerson, of Philadelphia, attributing the peculiar rich flavor of Philadelphia May butter to the prevalence of the *sweet-scented vernal grass* in the pastures of that region. In the recent agricultural report of the patent office we find a communication on the same subject by Dr. Emerson, in which he reiterates his former opinions, and gives various facts and arguments in their support. We copy the article, with the hope that some of our Ohio farmers will test the matter by experiment. We will procure seed of this grass in England for any of our readers who will send us a dollar or more for that purpose.—[Ed. Cult.

PHILADELPHIA BUTTER—SWEET-SCENTED VERNAL GRASS.

Philadelphia, Oct. 31, 1849.

Sir: I wish to invite your attention to a subject relating to pasturage and the products of the dairy. It has already been laid before the public, but this so partially and imperfectly, that it will still be found by most persons invested with novelty, and, as I believe, fraught with important bearings upon agricultural interests.

Philadelphia butter enjoys a widely extended reputation for its peculiarly high yet delicate flavor, well known to all who have had opportunities of tasting it. Good butter produced in this vicinity is always to be found in the Philadelphia market, but it is only during the spring that it possesses in greatest perfection that delicious flavor to which I here particularly refer. This superior flavor, like that distinguishing the Epping and Cambridge butter of the London market, has been very naturally ascribed to something eaten by the cows producing it. But what this *something* is, has been a subject for vague speculation, and never yet defined or specified so as to enable persons in other localities to avail themselves of it for the improvement of their own pastures and dairy products.

Extensive observations and many experiments, made and continued through many years, have convinced me that the proximate source of the high flavor of our Philadelphia May butter is the *sweet-scented vernal grass*, abounding in the old pastures, fields and meadows of the adjacent counties. Some of the facts and reasons upon which I found this conclusion are the following:

1st. In the dairy region around Philadelphia the sweet-scented vernal grass, with its peculiar vanilla-like fragrance, constitutes the predominant spring herbage on all the pasture fields and meadows left several years unplowed. The longer the pastures have been left unbroken, the greater the proportion of the vernal grass, and the higher the flavor of the butter produced from the cows fed upon them. Many of the meadows and pasture fields have remained ten, twenty, thirty, and more years unbroken by the plow. In such cases the sweet-scented vernal grass affords almost the exclusive spring herbage.

2d. The high flavor continues in the butter during

the development of this grass, and invariably declines with the maturing of the seeds, after which the stems become dry and hard, and the cattle push them aside, in search of fresher and greener herbage.

3d. The sweet-scented vernal grass is shown by chemical analysis to contain an aromatic essential oil, of which *benzoic acid*, or flowers of benzoin, is the base.

This aromatic principle is abundant, and can be readily obtained by distillation, furnishing a delightful perfume and source of flavor. As the milk of all animals is so very susceptiblo of acquiring disagreeable tastes from substances eaten, such as garlic, turnips, &c., it is natural to infer that it may likewise be imbued with agreeable flavors, when the proper agents for such a purpose are presented in the food.

4th. That the *benzoic acid* is the principal agent in producing the peculiarly agreeable flavor of butter made from pastures abounding in the sweet-scented vernal grass, I have rendered probable, if not a demonstrated fact, by several experiments in which the flowers of benzoin given to cows imparted to the butter made from them the characteristic flavor. In such cases 20 or 30 grains of the benzoin were given twice a day, previously dissolved in hot water, which was stirred into some flour or meal, and then mingled with the customary mess. The cows receive not the slightest injury from this or even a much larger quantity of the benzoin.

The sweet-scented vernal grass, called by botanists *anthoxanthum adoratum*, is a native of Europe, from whence, at an early period of our settlement, it has doubtless been introduced into the vicinity of Philadelphia, its seeds having probably been blended with those of other grasses. It has been long naturalized, and now disputes the right of soil with the common green grass, and never yields possession, but becomes more and more predominant until the sod is destroyed by the plow, after which it clings to the borders of the field, along the fences and hedge-rows. When, after a rotation of grain crops, the ground is left undisturbed by tillage to be again covered by greensward, the vernal grass reappears, springing from the old seed left in the earth. Though seldom sown designedly in this part of the United States, it is often sown in England, where it constitutes a part of the growth of most permanent pastures, growing in nearly every kind of soil, but attaining its greatest perfection on the deep and moist, loving shady places, such as the skirts of woods. The sweet odor by which English hay is often distinguished, is chiefly derived from an admixture of vernal grass. Although, when alone, it is not distinguished very highly as a hay grass, still its early growth and hardiness, with the superior nutritive properties of its aftermath, give it high claims in the composition of all permanent pastures. In England it comes into flower about the middle of April, and in southern Pennsylvania about the middle of May, the seed ripening in both countries about the second week in June. It is worthy of remark, that in the moist climate of England this grass continues throwing up flower-stalks till the end of autumn, while in Pennsylvania the efflorescence is confined to spring. As the development of the aromatic qualities is mainly confined to the period of efflorescence, this fact may explain why the period of highest flavor in Philadelphia butter is so limited.

The question might be very naturally asked: If the sweet-scented vernal grass communicates to spring butter the high and delicious flavor we have referred to, why is not this flavor imparted in winter when cows are fed on hay cut from meadows known to contain this grass? The answer I would give is as follows: The principal and almost exclusive hay-grass of our section of country is timothy, which, with red clover frequently combined, matures and is mown long after the sweet-scented vernal grass has dried its stalks and lost its distinguishing fragrance. Could the vernal grass be sown alone, or blended with other grasses maturing at the same time, and the hay all mown at the stage of perfect efflorescence and highest fragrance, there is little doubt that butter made from cows fed upon it would manifest more or less of the fine flavor at other times than in the spring. I think it proper to remark that the milky products of cows fed on pastures where the sweet-scented vernal grass abounds, instead of always possessing a delightful flavor, are sometimes found imbued with a most disagreeable one, proceeding generally from weeds so often existing in pastures. In southern Pennsylvania, garlic, and especially that nauseous and troublesome plant commonly called the "ox-eye daisy," a species of wild camomile, (*Chrysanthemum leucanthemum*,) are very often nipped by cows when the herbage is short or scarce. In such cases all the agreeable qualities that might otherwise have been derived from the vernal grass are not only neutralized, but overpowered by the disagreeable tastes imparted by the bad company with which it is associated. I consider the sweet-scented vernal grass worthy the attention of all farmers desirous of possessing the means of obtaining butter and other dairy products in the highest perfection, and of having in their fields and meadows one of the earliest, if not the very earliest pasture grass known.

But to these advantages, great as they are, may, I think, be added others of no small importance; one of which is the capacity to confer a fine flavor upon the meat of stock grazed upon a species of herbage fraught with a high aromatic principle. Such advantages have, from time immemorial, been the inheritance of people in certain localities, where they were originally indebted for them to chance, as for example with those residing in the vicinity of Philadelphia, few if any of whom are aware that there exists in their pastures any grasses not common to those of other places. To identify the immediate agent from which such advantages are derived, is to remove them from the uncertain control of accident, and place them at once at the disposal of all.

A description of the grass, the merits of which I have been describing to you, may be found in the Farmers' Encyclopædia, (Philadelphia edition for 1850,) under the head of *Anthoxanthum Adoratum*, figured in plate 6, *a*.

Very respectfully, G. Emerson.

Stark County Agricultural Society.

The annual meeting and election of this Society was held at the court house in Canton, on the 22d of February, 1851. The following are the officers elected for the ensuing year:

President—John S. Cock.
Vice President—James S. Kelley.
Treasurer—Herman Stidger.
Secretary—Madison Reynolds.
Managers—Solomon Kauffman, Henry Everhard, Henry Hull, James Medowl, Thomas McCullough.

On motion of S. Lahm, Esq., it was,

Resolved, That the Treasurer, by and with the consent of the Board of Managers, be authorized and directed to loan out any money in his hands, belonging to the Society, for such length of time as the same may be done consistent with the wants of the Society. The interest of the same to be added to the funds of the Society.

On motion of A. Wales, Jr., Esq., it was

Resolved, That the annual election shall hereafter be held on the last day of the Fair, and that the fiscal year of the Society hereafter shall commence on the first day of January.

On motion of George Raynolds, it was

Resolved, That the Board of Managers be requested to pay the Secretary for his services, such sum as they may deem right and proper.

There were 106 votes polled at the election, and $75 paid by members during the day. And it is confidently believed that there will be over *six hundred dollars* to distribute at the *next Fair, for premiums.*

Resolved, That the proceedings of this meeting be published in all the papers friendly to the cause.

Rodman Lovett, *Vice Pres't.*
Madison Raynolds, *Sec'y.*

OHIO CULTIVATOR.

COLUMBUS, MARCH 15, 1851.

A Trip to Cleveland.—We had a pleasant trip to Cleveland the past week, over the newly completed C., C. and C. Rail road. The depth of mud on the common roads of the country rendered them almost impassable, and we were never more forcibly impressed with the superiority of this mode of traveling. The rail road from Columbus to Cleveland is in better condition than we expected to find it, considering the circumstances, and when it is finished will be one of the best roads in the Union.

Lake Erie is quite free of ice except about Buffalo. Steamboats have been running to and from other ports for two weeks past.

Notes of our trip are unavoidably crowded out.

To Correspondents.—Several communications arrived too late for insertion in this number; others demanding our attention have been delayed by our absence, and the non-arrival of our associate as soon as was anticipated.

"Digamma" is informed that we do not think it expedient to publish his communication at the present time.

Col. Harris, our associate editor, has been visiting the farmers along the road from Trumbull county to this city, and was hourly expected here when this paper went to press.

The Legislature, it is expected, will adjourn on or about the 25th inst. We do not learn that much if any thing has been done directly relating to agriculture—except the passage of a law providing for obtaining annual statistics of the product of wheat and corn throughout the State. This law (and one or two others if passed) will appear in our next.

The Weather for a week or ten days past has been truly delightful—mild and bright sunny days, with slight frosts at night—just right for health and pleasure, as well as for spring plowing, sugar making, &c. Fruit buds are uninjured as yet.

The Wheat Crop has greatly improved in looks since our last, and now promises quite well, as far as we have seen or can learn, and the farmers seem in good spirits, ready to commence the duties of another season's campaign.

Deep Plowing.—Mr. Wilmington informs us that he will make a plow in answer to the proposition of Mr. Vandorn in our last paper, and send it to Columbus early next month. He would also make one for our friends in Wayne county, if he thought it would reach there in time.

Osage Orange Seed.—To our disappointment, the supply we had engaged has not come to hand, and we fear the man sold out on the way, and has returned to Texas. We know of none in the country, except at Cincinnati, where it is held at $40 by the bushel, which is too high for our views, though we have procured a little to supply friends—price $1,50 per quart. We still hope to obtain some at less price by the bushel.

Plaster.—Further information on this subject, especially in regard to price, &c., will appear in our next.

Flax Cotton, or the new method of manufacturing flax so as to resemble cotton, seems likely to prove successful, and if so, it will produce quite a revolution in the agriculture, trade and manufactures of this country. *More anon.*

Inquiries and Answers.

Management of Horses.—(To S. P. B., Stark co.) Your ill luck with horses is probably owing to want of knowledge and care in regard to the proper food and management of horses. We cannot afford space to enter fully into details of this subject in our paper, and would therefore advise you to either serve an apprenticeship to some good farmer or livery stable keeper, or else purchase a good book on the subject. "Stewart's Stable Economy" would perhaps be the best for you. We will publish an article or two on the care of horses, if we find such as suit us.

Hemp Culture.—A subscriber in Hocking county says that the flax crop has not done well in that region for three or four years past, and he thinks that *hemp* would be found well adapted to their soil and a profitable crop, if the farmers understood its culture.

Hemp requires very rich soil, such as the best of our Scioto bottoms, and we think very little of such land can be found in Hocking county; and even if the land is suitable, we have doubts about the success and profitableness of this crop, judging from the experiments we have seen in Ohio. Perhaps some one who has had experience in the business will give us a short article on the subject.

Barley Culture.—W. H., of Indiana, desires information on the culture of barley—the best kind of soil, and seed, time add manner of sowing, usual average yield, &c. (Answer in next number.)

Long Wooled Sheep.—(To E. J., of Tus. Co.,) Mr. J. Townsend, of Avon, Lorain county, is the person referred to as having Leicester sheep for sale. There are others in that neighborhood. For remarks on the different breeds of long wooled sheep see articles in O. Cultivator for 1849.

We do not know of any thorough bred Durham heifers for sale at moderate prices.

Devonshire Cattle.—I would say in answer to the inquiry in a late number of the Cultivator, I have a full blooded Devon bull, 4 years old next spring, imported from the State of New York, and that I will sell him on the first of June, if I am informed of the desire of any one to purchase one month previous.—Price $60. S. Palmer.

Western Star, Medina county, Ohio.

☞ The Ohio State Fair is to be held Sept. 24-5-6—one week later than the New York Fair.

"FOURTH ANNUAL REPORT OF THE O. STATE BOARD OF AGRICULTURE."—The Senate's edition of this work has just been issued. It is a volume of 636 pages, and will doubtless be read with interest and profit by the farmers of Ohio, although it is by no means such a document as ought to have been produced at this age of our agricultural movements in Ohio, and with the means and opportunities possessed by the State Board. Our principal objection to the report, and one that has been made to us by several members of the Senate, is its too great size for the amount of practical or scientific matter it contains—thereby involving unnecessary expense for printing, and precluding the sending of copies by mail, except at a cost of near 25 cents per copy for postage. It is true this document is not so large as the reports of the N. Y. Agricultural Society, but any one who will compare the quality of the contents of the two, will admit that ours contains by far the most *chaff*.

We have not had time to examine the report closely—(and it contains no index to assist one,) but we observe that the reports from counties occupy some 400 pages, in many cases giving the entire lists of premiums awarded at county shows, and which had been already fully published in the counties where alone they possess any interest.

Again, after giving a full list of the premiums awarded at the State Fair, the reports of committees are published with the premiums repeated, but only the *numbers* mentioned—so that the reader can derive no information therefrom.

Again, the report contains five or six distinct essays, all on the same subject—"the relation that the Agricultural, Mechanical and Manufacturing interests sustain to each other"—for one of which a premium was awarded, and only that one, or at most only two ought to have been published. In short, the whole of the report that is of any value, could have been condensed into half the number of pages; and then the document would have been twice as valuable as now, with only half the cost.

Osage Orange Culture --- Hedges.

The interest manifested in this subject by our readers, as is evinced by the numerous letters of inquiry we receive, induces us to bestow more space to it than might otherwise seem proper. Every year's additional experience and observation strengthens our conviction that the Osage Orange will meet the most sanguine expectations of its advocates as a hedge plant, and will eventually prove of great benefit to this country.

As might have been expected, however, it is found that there is much to be learned as yet in regard to the best modes of producing the plants from seed, and managing them when set for a hedge. Very many failures have occurred with the seed, even where proof was afforded that its quality was good—and it is often difficult to discover the causes of these failures. The best advice we can give in few words on this point, is as follows:

The soil for the seed bed should be of a sandy order, deep and mellow, and rather moist than dry—such as will not bake after rain, nor ruffer much from drouth. Soak the seed in soft water standing in a warm room for three to five days, (or longer if the weather should be unfavorable for sowing.) Sow in drills, say 1½ or two feet apart, the seeds one or two inches apart in the drill, and cover with two inches of mellow earth. If rain does not occur within a day or two after sowing, water the ground freely, and be careful not to let the ground dry to the depth of the seeds till the plants appear. After they have come up they are sometimes destroyed by moles and by cut worms. Keep the plants clear of weeds, especially while young. They should be transplanted into the hedge row when one year old. The winter in this climate usually kills the tops nearly down to the ground the first year, but this is no injury as they should be cut off to within an inch of the surface when transplanting.

In regard to the distance apart, and mode of planting and training the hedge, we must refer to the directions given in this paper one year ago, only remarking that we would set the plants a few inches wider apart and trim closer and oftener than we then recommended. The following remarks on this subject from the Western Horticulturist are worthy attention—though we think the distance apart named is somewhat too great.—ED O. CULT.

It is useless for me to attempt a description of the beauty of these live green fences, their effect upon the landscape, especially as they are observed on an uneven surface, rising and falling in easy and natural curves—must be seen to be fully appreciated—particularly by those of us who have grown up on the confines of the wilderness, and who after a long ride in an unbroken forest, have often been charmed with meeting even a *worm fence* inclosing only a newly planted corn field in a *deadening;* charmed, because it was an evidence of the progress of civilization—but how much more shall we not be charmed, when in the advance of higher culture, we come to see, with the disapperance of the stumps, the advent of these beautiful inclosures of our fields and gardens, *well* grown and well trimmed live fences!

Hedges are applicaple to various purposes upon the Farm, the Lawn and the Garden, and their management and the selection of the different plants in each case, depends upon the object to be attained, whether it be a fence, a screen, or a shelter, or some combination of any or all of these.

For a *Fence*, the stronger growing hedge plants should be selected, those having thorns or spines, or which, when judiciously trimmed, will furnish short, stout branches, will best effect the desired object. First of these, for this latitude, and further South, is the Maclura or Osage Orange, called also Bodark, (*bois d'arc,*) anglice *bow-wood*, a native of Texas and Arkansas, but admirably adapted to our climate, growing luxuriantly and withstanding the winters very well, except that when young and grown too late in the autumn, they are sometimes frozen back, as is often the case with peaches, plums and cherries, in our nurseries. The Maclura claims our attention for this purpose, on account of its beautiful bright green and shining foliage which is retained until late in the autumn, as well as for its vigorous growth, and the admirable manner in which it bears the clippage necessary to make a good hedge. It is decidedly *the* hedge plant. * * * * * * *

Preparation of the ground and Manuring.—Whatever is expected to grow well, and thus repay the outlay of its purchase, is worthy of a superior preparation of the soil intended for its reception, and no niggardly expenditure of labor in this stage of the proceeding can be expected to yield a happy result.

If the ground be in grass, it may be prepared by the spade or plow, six or eight feet wide, during the winter, so as to be mellowed by the frost—or if notice is given the previous year, a couple of rows of potatoes may be taken off, as an excellent preparation; these should be well manured.

Planting.—The ground having been thoroughly prepared, and level, not ridged, but rather hollowed, the garden line is to be stretched along the course of the future hedge, and this should never be within five feet of any standing fence, as the shade and interruption of fresh air have a very bad effect upon the growth of the plants, and if too close will entirely

mar the beauty of the hedge. The distance between the plants is another very important matter of consideration—most writers and planters have committed the great error of crowding. The different plants used are so varied in their habit. that no fixed rule can be laid down for all of them, but be sure to avoid setting the plants too closely.

The Honey locust, for instance, which in our forests often attains a diameter of two feet, or the Osage Orange, which, in a few years grows to the thickness of one foot, need space, or they will inevitably be smothered. To place them in a single row, four, five or six inches apart, or in a double row, alternating plants and spaces as so often recommended, even at nine inches apart in the rows, would surely result, sooner or later, in the death of most of the plants. For the former, I should prefer two feet intervals in a single row, for the latter eighteen or twenty inches, and this conclusion is the result of experience, and not mere theoretical speculation.

The next consideration should be the *cultivation* to be applied. The first year after planting, a row of potatoes may be grown on each side of the hedge; this has the double advantage of yielding some profit, and leaving the ground in a good condition, beside the inducement thus held out to secure the clean culture of the plants,—and this is an essential element of the future success of the enterprise;—not a blade of grass should ever be allowed to speer in among the new comers—and for the sake of its eradication the cultivation of a crop of potatoes the year before setting the hedge, was especially recommended. The ground must be well dug or plowed at least once this season, and constantly hoed and cultivated.

The second, and all succeeding years, the most perfect cultivation must be maintained, until the hedge is able to take care of itself—which will be when it is four years old—if it has been properly trimmed, if otherwise, never. During all this time no weed nor grass should be allowed to remain within the strip of land ten feet wide appropriated to the hedge. Think not that you are dealing with a dead wooden fence, which needs nothing for its support but the mere ground upon which it stands; on the contrary, you are attempting to grow a crop of great importance, which with proper care, will produce for your fields a crown of laurel, that is, of *Maclura;* or, with the too common neglect, a wild thicket of weeds, utterly failing in its object, and bringing disgrace upon both the planter and the planted.

Trimming the hedge is a matter of the utmost importance, and more failures have resulted from ignorance and neglect in this, than in any or all other parts of the business. The establishment of certain principles of action, and their faithful execution, are necessary to success. It is a fact which all must have observed, that so soon as a shrub or tree begins to spread out its upper branches, the lower limbs cease to grow,—this is owing to the combined influence of the sap to flow most freely to the highest buds, at the expense of the lower, and the shade and want of air, produced by the expansion of the upper branches. This is all right and proper in the production of trees, but a hedge is very different from a forest, or a row of nursery trees, which are grown for their stems and for sale—while the hedge is cultivated for its impenetrable branches, and to keep for one's self even though it be the envy of the whole country. An entirely diferent system of tactics must be adopted to produce this effect, for its neglect gives us a row of trees, closely furnished with branches at the top, but naked at the bottom—where we wish to oppose a resisting medium to the long nose of our neighbor's grunter; in fact, this is a hedge up side down; a section of it, instead of giving us a triangle, with a broad base upon the ground, equaling or exceeding its height, will represent a tall, narrow triangle resting upon its apex or point. This is almost inevitably the result with all the plans for plashing and wattling that have ever been invented; and will probably ever remain so, while vegetable physiology continues to be based upon the same laws which now appear to guide the currents of sap, and consequent growth of branches.

To descend to more practical minutiæ, let us suppose that we are planting Maclura, of one year's growth in the seed bed, they are not well matured, and are best cut off at the ground. If we give them a summer of good cultivation in a rich soil, at twenty inches apart, in a single row,—at the end of the first season, the second of their lives, they will have made strong shoots—one, two, or more, from each plant, varying in height from two to four feet, or more. These are all to be cut off at the ground, or within two inches of it, late in the winter, after the leaves have fallen, or early in the spring;—this is to be done with a sharp knife, or even with a strong but sharp brush scythe, and the labor of the first season is completed, so far as the hedger is concerned,—not so with the hedge itself, every plant of which will be industriously occupying each respite from severe frost, in multiplying its rootlets, and preparing a whole company of buds, from which to send up a larger and more numerous growth of canes the next year. By the middle of June, or later, these will have attained a height of two or three feet or more, and the woody fibre will have been pretty freely deposited at their lower portions. The strong shears should now be brought into play, sweeping off every shoot at four inches above the surface of the ground. The rubbish is to be removed, and a thorough cultivation of the soil effected, which will enable the plants to make a very pretty and vastly thickened growth before the frosts of autumn check the second year's progress.

The hedge is now beginning to be quite a respectable thicket—all of which, however, is to be removed as nearly back to the summer pruning as possible, in the middle line of the plants, and inclining toward the ground on either side, so as to commence the angular shape of the hedge—which is to be henceforth persisted in, and which will constitute its great beauty and the secret of its usefulness, since such a form will allow the greatest possible amount of air, and rain, and sunshine to fall upon the whole surface of the plants. The highest stumps will now be about eight inches from the ground—or, if you be very tender hearted, and still attempt to carry out this decapitating process, perhaps they will be ten inches or a foot high. This close cutting back, though essential to the future success of the hedge, is most difficult to have executed;—you must nerve yourself with all your cruelty and bravery, if you intend personally to engage in the undertaking, and must stand guard obdurately over any persons employed in your service, while they are engaged in this repeated amputation.

The third year the June trimming is to be repeated, earlier or later, according to the season and the growth of your plants, but so soon as the shoots begin to grow woody so as to secure the development of a new crop of young buds, and also to avoid the impending hazard of breaking out the shoots at their junction with last year's wood. The hedge is now four inches higher, and as the lateral branches are increasing in number and importance, they may have their ends gently nipped off with the shears so as to give the sides a snug appearance, and to encourage them as much as possible. In August of this year the hedge will bear another clipping, but as the number of shoots has greatly increased, their length and thickness will have proportionably diminished, and the labor will be much lighter; still, you must not relax

your severity,—four inches gain in height is as much as should be allowed at each cutting, and the top of your hedge should not be more than sixteen or eighteen inches above the ground. A third crop of tender green will now be thrown out in a few days or weeks, according to the season, and your three year old hedge will astonish even yourself, by its perfect fullness and closeness,—so that you may feel disposed, if near a State Fair, to enter it for competition against all the hedges, of the country; and should you be so fortunate as to have a Committee appointed to investigate its merits, they may come, and they will admire, and applaud—possibly they may even wonder,—but they will never believe that the even and compact wall of living green, three feet wide at the bottom, and eighteen inches high, has resulted from a single row of plants set twenty inches distant from each other, *three* years before.

Letter from Ashtabula County.

Mr. Bateham: Perhaps your readers would like to know how we in this far off lake region get along this winter, and how we manage to keep our stock. Well, in the first place we sold off in the fall one-third or more that we expected to keep, and then the little money we got for them we paid out for corn and other grain, and most of the farmers purchased or fitted up some kind of a straw cutting machine, and with good attention to our stock we are getting along very well; our cattle now look as well as they usually do at this season, although in consequence of the almost entire destruction of grass in the fall, many cattle commenced the winter very poor.

The winter here commenced about the second week in December, with a heavy fall of snow, when the ground was free from frost and roads as good as summer. We had four weeks of sleighing, weather mild most of the time. Since about the second week in January we have had very changeable weather, the thermometer ranging from two to sixty degrees above zero. On the whole the winter has been very mild, considering the amount of snow.

Hay sells from ten to twelve dollars per ton. Corn fifty cents, shelled—most farmers bought for twenty-five cents the bushel of ears and ground it with the cob. Oats 37½, but rather scarce.

There appears to be no excitement as yet about cows selling for a high price in the spring. It will doubtless require a large number of cows to be brought into the county to bring the dairy operations up to the former standard, but I believe it is best to wait quietly and see what spring will develope. Ashtabula will do something in the way of cheese making next summer, I guess.

It has been a hard time for wheat for a few weeks past, but it is too early to judge.

Yours, &c., C. Stowe.

Ashtabula Co. O., Feb. 22, 1851.

On Making Maple Sugar.

Eds. O. Cultivator: Almost every one knows how to make Maple Sugar; but it would seem from the quality of most that we find in market, that few know how to make it *right*, or if they know how, they are too careless or too lazy to take the necessary pains. How often do we see in use old sap troughs that have lain the whole year beneath the trees, right side up, to catch the rain and dirt, and half decayed,—in these the sap is caught, then boiled over a fire made between two logs, where it is generally scorched in sugaring off, so as to make a dirty, black, and bitter article unworthy the name of sugar.

My way is, to tap the trees with a half inch bit or auger, put in spiles of elder or sumac, and catch the sap in clean buckets—(which cost about 20 cents each at the factory, and will last many years if carefully stored;) gather the sap into hogsheads or tubs, holding about 4 barrels each, and boil it before it begins to sour, in shallow kettles made of sheet iron—boil it down to good syrup, then strain it into a sound oak barrel, in which it is allowed to stand 24 hours, by which time it will settle perfectly clear, without the use of eggs, milk, or any such articles in boiling. Let a faucet be placed in the barrel, 3 inches from the bottom, through which the syrup can be drawn without disturbing the sediment. To sugar off, I prefer using a kettle that will hold about half a barrel; and boil over a brisk, steady fire, till on dropping some of the syrup into cold water it will break like glass, then dip it into wooden trays to cool, and when it is grained stir it briskly. A hoe is a convenient thing for breaking the lumps. Try this plan, and I will warrant your sugar will be as white as any brought from Havanna, and will command the highest price in market.

Pans or kettles for sugar making should be set in an arch of brick or stones that will stand fire. I have used cinders (called *slag*) from an iron furnace for this purpose and found it answers well.

The great secret in making good sugar, is, to have everything neat and clean, and perform the work with activity and care. Respectfully,

J. D. H.

Ashtabula Co., O., March 1850.

Remarks.—The foregoing is good and timely advice, and one or two points recommended, are new to us. Our readers will find in the last year's volume of this paper, p. 12, an excellent article on the construction of sheet iron pans or evaporators for making sugar, and in the volume for 1847, p. 43, is one on the construction of arches or furnaces for this purpose.

List of New Patents.

Patents and Claims, relating to Agriculture and Domestic Arts, granted in January and February, 1851.

To Joshua M. C. Armsby of Worcester, Mass., for improvement in Corn Shellers.

"I claim casting the fly-wheel of the corn sheller solid with the feeding wheel, so as to bring it between the two bearings of said wheel."

To Wm. Maguire of Cincinnati, O., for improvement in Machines for Jointing Staves.

"I claim the arrangement of a circular rest, having a sliding motion to and fro, in the plane of its axis, and having, around its perimeter, catches for the retention of the stave during the process of jointing, and rotating the distance from stave to stave, at every forward stroke, and held fast for the action of the rotating jointers upon the stave at every return stroke, the jointer and circular rest being so arranged as to impart at the same time, to the stave edge, any given bevel and taper, according to the size and bilge of the cask."

To Edward Neely of Savannah, Mo., for Improvement in Grass Harvesters.

"I claim the manner herein described, of suspending the cutter ring from the wheel, by means of straps or other yielding material.

I also claim the combination of the cutters, beveled cutter ring, and straps, for the purpose of raising the cutter ring over any obstruction coming against the edge of the knife.

I also claim the manner of arranging the guide board, standard, arm and strop, secured as described,

for the purpose of guiding the machine and allowing the parts to yield to a sudden stopping of the machine, or to irregularities in the ground."

To Andrew L. Simpson of Durham, N. H., for Improvement in Ox Yokes.

"I claim arranging in the beam of the yoke two draft staples, some six inches apart in lieu of one at the centre, and the combination or use therewith of a branch chain of proper length, connected to the main draft chain, at a proper distance from the beam, and the adjustable hook, for modifying the length of the branch chain."

To Samuel & Morton Pencock, of Kennett Square, Pa., for improvement in Seeding Apparatus of a Seed Planter.

"We claim the employment of the ring of cylinder, having projections on its periphery, in combination with the notched and toothed cylindrical gauge caps, constructed, arranged, and operated substantially in the manner herein set forth, for increasing and diminishing the size and number of the distributing receptacles.

We likewise claim the combination of the helical spring, screw shaft, flanged nut, and clamp nut, with the notched and toothed cylindrical gauge caps, to which the ends of the spring are attached, for turning the gauge cap, in order to change the relationship of the teeth or projections of one of the caps, with the teeth or projections on the adjacent cap, for enlarging the distributing receptacles.

We also claim the combination of the screw shaft, clutch nut, clutch washer, and clamp nut, with the toothed cylinder caps for enlarging or diminishing the distributing receptacles.

We likewise claim the modifications of the distributing apparatus in their simplified forms, as represented. the several parts being operated in the manner herein set forth.

To John Osborn, of Hamden, Ct., for Improvement in Operating the Waste-gate in Hydraulic Rams.

"I claim the use of the regulating slide and nut, or other similar arrangement, in combination with the levers, wires, springs, rods, weights; or other devices, substantially similar to those described, for adjusting the waste valve, and operated on and in connection with a float at the spring or source, which float rises and falls with the water.

I also claim the use of the hammer, resting or falling on a springing piece for opening the waste valve, or starting the hydraulic ram, and worked as described, or in any similar manner."

To Joseph E. Ware, of St. Louis, Mo., for Method of Securing Ranges of Short Plank in Pavements.

"I claim the method above described, of securing ranges of short pieces of planking of a street or road, in longitudinal lines, over water or gas pipes, by means of screws or keys with staples, aided by the double bevel of the short planks and the ends of the permanent interval planks, severally holding and permitting of the easy removal of such short piece."

To Harmon Hibbard, of Marietta, N. Y., assignor to William W. Reid, of Rochester, N. Y., for Improvement in Tanning Leather by Tannin and Acids. Patented Oct. 16, 1849. Reissued Feb. 11, 1851.

"I claim the process of removing hair and wool from skins and hides, and of liming them, so called, preparatory to tanning, by the use of a composition of lime, wood ashes, or potash, and of salt, called Composition No. 1, in the manner above described.

I also claim the use of a composition of lime and wood ashes or potash, without the salt, but I do not claim either of these materials separately by itself.

I also claim the process of tanning hides and skins, by the use of any kind of tannin, in combination either with the muriatic acid of commerce, or with muriatic acid, generated by a mixture of sulphuric acid and salt in water, with the tannin."

HORTICULTURAL DEPARTMENT.

Spring Work, as suggested in our last, should now be prosecuted with energy, especially while this fine weather continues. All hardy kinds of garden seeds may be sown where the ground is mellow and in order; and all pruning, trimming, cleaning up, &c., should be done early. Asparagus and rhubarb beds should be dressed, by loosening the soil and spading in old manure, if not already rich. Strawberry beds will need dressing between the rows, and the plants thinned if not done in the fall.

☞ *Look out for storms* and more cold weather before May, and do not plant or sow tender articles till danger of frosts is over.

On Grape Culture.

Mr. Bateham: For several years past I have succeeded very well with the Sweet Water grape. My Manner has been to train a single vine, or at most but two, around a pole about eight feet high. In November I prune them close, cut the strings which foster them to the pole, dig a shallow trench, bend down the vine and cover it with garden mould. When the frost is gone in the spring, they have been raised and twined and tied around the pole. Last year I observed the oldest vine produced little fruit, having borne three or four successive years, previous. On inquiry, I found a general complaint that though this grape, with care, will produce well when young, yet when four or five years old it fails.

I have a friend in Ashtabula, who raises exceedingly fine grapes of the common hardy kinds, Isabellas and Catawbas. His rule is that grape vines should never be over five years old. He therefore trains up a succession of runners, and as they come on, cuts away the old ones near the ground. His vines are planted by the side of an open fence. Across the top of the fence are fastened, by nailing on the tops of the posts narrow strips of plank, extending two or three feet on each side of the fence, and the vines are spread over these, leaving the fruit to the full rays of the sun. I have never seen more abundant, or finer grapes any where.

Would not this process insure continued success in the cultivation of the Sweet Water?

Lake.

Painesville, Lake Co. O., Feb., 1851.

Remarks.—The above suggestions we think are excellent. It has long been found that foreign grapes (Sweet Water, &c.,) cannot be raised to any advantage in this country in the open air, except on *young vines*—but with good soil and careful training, a few good crops can be obtained from each planting; and as the plants are easily produced, the fruit is well worth the pains.—Ed.

Analyses of the Peach Tree.

EDITORS OHIO CULTIVATOR: Having observed in a late number of the O. Cultivator, an analysis of a seedling peach tree by Prof. Emmons, as well as my analysis of some cultivated kinds, and there appearing to be considerable difference in comparing the two together which might induce with some persons not thoroughly conversant with such subjects, an opinion that there was some quackery in the case, I have thought it necessary to present a comparison of the two analyses in a different form, more intelligible.

Prof. Emmons, it will be seen, has separately analysed the wood of limbs, bark of limbs, leaves, wood of root, bark of root, wood of trunk, and bark of trunk. But my analysis was of the smaller limbs only. At the same time I chose the smaller limbs as most likely to contain the largest proportion of the more rare and valuable constituents, as the alkalies and phosphates. The plan of analysing the different parts of the tree throughout, is no doubt preferable to that of some part only, but an analysis of the ashes of the whole tree mixed would answer every purpose. I have bro't the statements of both analyses into nearly the same form, by rejecting the carbonic acid as an unimportant constituent of plants, from my account, as Prof. Emmons has done from his, adding into one sum the materials of one kind in every part of the plant:—

Analysis of Prof. Emmons.		*Analysis of B. Kirtland.*	
Potash	10.69	Potash	16.11
Soda	6.72	Soda	2.57
Chloride of sodium	1.25	Chloride of sodium	.89
Sulphuric acid	6.43	Sulphuric acid	1.70
Lime	31.27	Lime	31.97
Magnesia	6.28	Magnesia	9.06
Phos. of Perox. iron	1.15	Phos. of perox. iron	2.80
Phosphate of lime and Magnesia	23.72	Phosphate of lime	27.90
Organic matter	5.15		
Insoluble silica and Charcoal	7.30	Silica, sand and charcoal	5.98
		Per. of Manganese	1.02
	99.96		100.00

I think it is quite probable that the articles in the above tables, that are nearly related in their qualities, as the potash and soda, lime and magnesia, iron and manganese, sulphuric acid and phosphoric acid, may fill the place of each other in the composition of plants in cases where one or the other may be deficient in the soil that supplies them nutriment. Now the potash and soda added differ but little in the two tables—the chloride of sodium, rather more—the sulphuric acid is more than three times the amount in the statement of Prof. Emmons of that of mine. Lime about the same. Magnesia nearly one half more in my account than in that of Prof. Emmons. Phosphate of iron double. Phosphates of lime and magnesia not much different, so of the silica and charcoal. Prof. E. found five per cent of organic matter, which I did not look for, as there is no such an article mentioned in the rules of analysis I have studied. I found one per cent of manganese which he did not. We took the most distant extremes in our choice of subjects for analysis. He selected a natural seedling tree of the slowest growth, poorest fruit, and wildest nature. I chose the most highly cultivated kinds, of the finest quality, vigorous growth, in new land, a chestnut ridge, limestone soil, well manured, young trees of the highest vigor, good bearers of fruit—such trees with their large glossy leaves and bright colored twigs, stocky growth—differ as much from the slender growth, pale color and lustreless leaves and twigs of the natural, as the wild savage of the wood from the most refined and cultivated person in civilized life. So we may infer that as the natural and cultivated peach differ so much in their external appearance, and the excellence of their fruit, so we will find as much difference in their chemical constitution, as our respective analyses would indicate. Nature employs more of the alkalies and phosphates in perfecting the seeds of fruits and grains than in their stalks. So likely in the fine fruits more of these constituents are employed than in the hardy wilding tree.

BEECH WOOD CLAY LANDS.—You inquire whether we know of any analysis of beech land clay soil. We have never seen any, but Leibig somewhere in his agricultural chemistry, says that the timber indicates the predominating constituents of the soil: thus, white oak and chestnut indicate considerable lime. Good land for wheat. Beech, maple, elm, basswood, poplar, &c., indicate plenty of Potash—best land for Indian corn and grass. In this part of the country, which is mostly beech land, no application of fertilizers does as much good to the growth of wheat as leached ashes in which abound the silicates of potash, phosphates, sulphates and carbonates of lime and magnesia. Caustic lime it is said hardens the soil of our wet lands too much.

Yours, &c., BILLIUS KIRTLAND.

Poland, Mahoning co., O., March 3d, '51.

German Hot-Beds.

Take white cotton cloth, of a close texture, stretch and nail it on frames of any size you wish; mix two ounces of lime-water, four ounces of linseed oil, one ounce white of eggs, two ounces of yolk of eggs, mix the lime and oil with very gentle heat, beat the eggs separately, and mix with the former. Spread this mixture with a paint brush over the cotton, allowing each coat to dry before applying another, until they become water-proof. The following are some of the advantages these shades possess over glass ones:

1. The cost being hardly one-fourth.
2. Repairs are easily and cheaply made.
3. The light. They do not require shading; no matter how intense the heat of the sun, the plants are never struck down, or burnt, or faded, or checked in growth; neither do they grow up long, sick and weakly, as they do under glass, and still there is abundance of light.
4. The heat, arising entirely from below, is more equable and temperate, which is a great object. The vapor rising from the manure and the earth is condensed by the cool air passing ever the surface of the shade, and hangs in drops upon the inside, and therefore the plants do not require as frequent watering. If the frames or stretchers are made large, they should be intersected with cross-bars about a foot square to support the cloth. These articles are just the thing for bringing forward flower-seeds in season for transplanting.—*Plow Loom and Anvil.*

Raising Wheat after Wheat.

MR. BATEHAM: I have a field now in wheat, which I think of sowing with clover this spring, and dressing it with plaster to stimulate the growth of clover—then plowing in the clover and sowing to wheat again next fall, then clover and plaster again, followed with wheat—so on for a series of years.

Quere.—Is the experiment worth trying? J. A.

Big Prairie, Wayne Co., O., Feb. 1851.

ANSWER.—The experiment may be "worth trying" if the field is not too large; but we don't think it will be found to pay well to plow in the clover the same year it is sown. The land too must be of a peculiarly favorable character to produce many good crops of wheat in such rapid succession, even with the aid of plaster and clover. We predict it *won't pay.*—ED.

LADIES' DEPARTMENT.

CONDUCTED BY MRS. JOSEPHINE C. BATEHAM.

The New Rail Road.—We have taken advantage of the completion of the C. C. & C., Railroad to spend a week with our friends in the northern part of the State, since our last paper was issued. The track of the road is somewhat uneven, especially where laid during the winter, but it promises soon to be one of the best, and will inevitably become a great thoroughfare for the people—a most effectual means of rooting out and removing sectional predjudices, and cementing together the different portions of the State.

Mrs. Gage was removed from this city to her home in McConnelsville about five weeks since. We then cherished the hope of her speedy recovery, but she has continued quite low until near the present time. The last report says she is gradually improving.

Adapting Food to the Season of the Year.

Far too little attention is usually given to this subject in farmers' families, and the result is most disastrous; while few trouble themselves to trace effect back to cause, and look to their system of diet, to find the origin of the fevers and billious disorders so prevalent in Spring and Summer. It is quite as necessary and rational to change the diet with the change of season, as to change the clothing, and this change is indicated by nature in the fruits and vegetables furnished during the warm season, and in the indisposition for abundant and hearty food, which is experienced to a greater or less extent by nearly all.

Fat pork and hot bread have formed the staple of food among the majority of farmers during the winter, without apparent injury to the health; and as they are more easily procured and prepared than a diet of lean meats and vegetables, and as no evil consequences are feared, and if felt are ascribed to wrong causes, no change is made until the summer is far advanced. A moments attention to the philosophy and physiology of the matter, we think, will convince our readers that an early change is desirable, and induce not only farmers' wives to make the change but farmers cheerfully to furnish the requisite substitutes.

Animal fat is composed principally of *carbon*. Where much fat meat is eaten, without causing an increase of flesh, the usual excretions can account for but a small portion of the carbon taken into the system, and the question arises, what becomes of the remainder. A certain portion of it unites with oxygen and hydrogen gases obtained from the food and atmosphere, forming carbonic acid gas and water, which are discharged from the system by the lungs and skin.

The union of these gases with carbon under any circumstances, generates heat, and the animal heat of the human body is constantly supported by this combustion, if we may use this term. A considerable amount of carbon is thus consumed in cold weather, but in warm less fuel is required and the carbon is accumulated in the system, and being very difficult of digestion, bile is necessarily secreted more abundantly by the liver, and poured from thence into the stomach to assist in the process, and billious fevers, bowel complaints and diseased livers are the result.

Dr. Pereira tells us that "fixed oil or fat, is more difficult of digestion, and more obnoxious to the stomach, than any other alimentary principle. Indeed in some more or less obnoxious or concealed form I believe it will be found the offending ingredient in nine-tenths of the dishes which disturb weak stomachs." And Beaumont says, "bile is seldom found in the stomach, except under peculiar circumstances," and adds, "that when the use of fat or oily food has been persevered in for some time, there is generally the presence of bile in the gastric fluids."

The frequency of diseases of the liver, in hot seasons and hot climates, is ascribed by Liebig to the accumulation of carbon in the system. "In our climate" he observes, "hepatic diseases, or those arising from *excess of carbon*, prevail in summer; in winter, pulmonic diseases, or those arising from excess of oxygen are more frequent."

Out of fifty-six kinds of food given by Pereira, hogs fat or lard contains the largest proportion of carbon.

As the warm season advances, a smaller quantity of food suffices to keep up the temperature of the body, and under the same circumstances, substances containing a less proportion of carbon are better adapted for the preservation of health and should be substituted for fatty dishes of food. Fried eggs, doughnuts, and all other kinds of food fried in lard should for the same purpose be discarded or used sparingly until cold weather again approaches.

The reduced quantity as well as changed quality of food recommended by these authors, for the warm season must have been noticed by all, and we are inclined to think it of nealy equal importance with the other.

We read in the work last quoted, "that when the external temperature is high, less carbon is requisite to support natural heat of the body, and in consequence of the air being expanded, we inhale at each inspiration, less oxygen by weight than in colder climates and seasons. If therefore we continue to consume large amounts of rich food it occasions an excess of carbonaceous matter in the system."

We extract the following from an article in the Health Journal, on Spring Regimen for invalids. "Of this the invalid or complainer may be well assured that the lighter and simpler his meals are at this season, the more alert he will feel and the greater will be his exemption from those numerous unpleasant feelings, bordering on decided pain, which so wear down the system as to produce that weakness which he erroneously comes to consider as the disease itself, whereas it is in fact, but the effect of these causes which are brought into action by high and full feeding. The heaviness and drowsiness through the day, of which many persons often complain at the opening of Spring, are best obviated by the course indicated above."

In another article the same author says: "Increase of thirst, feverish heat, and pains of the head, or palpitation of the heart, with a sensation of languor or uneasiness, are best obviated by a reduction of the usual quantity of food—and a substitution almost entire, of vegetable for animal substances."

We fully agree in the following remarks of the late Dr. Avery, on the mode of living in the United States: "As a people, we eat far too much hearty food; that is, we take in more rich nutriment than we require, and the consequence is, our systems become overloaded and oppressed, our organs are clogged in the performance of their several functions, the circulating fluids become too thick and stimulating, and the proneness to derangement and diseased action greatly increased. Hence arises a large proportion of the inflammatory and febrile diseases among us."

Much has been said in the Cultivator on the economy of time, labor and expense by a simpler diet than that usually adopted and when these motives are added to the one presented in this article, we hope most of the rich and especially oily dishes, now in use will be banished from the table, and such a diet adopted as will be more conducive to general health.

Letter from Emily to H. T. T.---Receipts.

MRS. BATEHAM: I noticed in the Cultivator of February 15, a pretty severe criticism upon receipts sent by me, and inserted in the number for January 15; but the multiplicity of my domestic duties has prevented my addressing you ere this. Upon first glancing at the initials attached to the article I thought it written by Aunt Patience, and wondered she would with so little mercy, criticise one of her nieces, first trials, but I soon saw my mistake, and felt relieved. How the receipts merited the rebuke they received from H. T. T. I cannot tell. I have used them for some years past and can vouch for their goodness and economy. "Mrs. Madison's Whim," to any one who wants a cheap Fruit Cake is an excellent one, and those who do not wish to use brandy, can substitute rose water. I use a little of both; but not for worlds would I "arouse the appetite of a reformed inebriate," nothing was farther from my thoughts or wish, than to cause weak ones to stumble.

The kisses also are a cheap, delicate cake, and those who will try them will find them so, but were I restricted to *one kind* of kisses, I might, like H. T. T. prefer the "warm living" ones, but as I can indulge in the *baked ones* too, I feel free to do it, and can still find time for the cultivation of my own mind by useful reading, also to assist my two little daughters in their daily lessons when going to school, and when necessity requires it, entirely superintend their studies, i. e. in the absence of a proper school for them to attend; but when we (as is now the case) have a particularly good select school, we send them, and are sufficiently rewarded in their acquirements. Please, dear Editress, inform H. T. T. that I do not consider it necessary to entirely lay aside such things as cake baking and preserving, nor even what is called accomplishments, because one has a family, when by a proper arrangement we can find time for them, without neglecting any duty, and I am not backward in the performance of any that may devolve upon me, even when deprived of help. My receipts were not intended for any particular person, but for those aunts and cousins who may wish to appropriate them.

For such I subjoin the following receipts procured from a baker, which I have tried faithfully.

SMALL POUND CAKE.—1 lb butter, 2 lbs sugar, 3½ lbs flour, ¾ oz hartshorn, 1½ pints milk, 10 eggs. Bake in small tins.

BETHEL TEA CAKES.—2½ lbs flour, 1 lb sugar, 3 eggs, ½ pint of milk, ½ oz hartshorn, ½ lb butter. Roll them.

DOMESTIC CHAMPAIGNE.—Six gallons water, 6 lbs clarified loaf sugar, 3 oz each ginger and cream tartar; give the whole a good boiling. Let it cool to a blood heat, then add to it the peel of 6 lemons, and 5 oz yeast; mix it well, let it stand 12 hours, draw it off clear, bottle, and then drink —— to the health of

EMILY.

Urbana, March 11, '51.

BED BUGS.—There is a long article in the Valley Farmer by which it is established beyond question that sweet oil occasionally rubbed over bedsteads, chair boards, &c., will effectually prevent the appearance of bed bugs. We think it unnessary to publish the evidence of the efficiency of this cheap and agreeable preventive of the nuisance in question. The reader will take our word that it is conclusive.—*Ex.*

[☞ Two or three communications are accidently crowded out of this department.]

AGRICULTURAL WARE HOUSE.

Beard & Senix,

MANUFACTURERS of the Celebrated

EMPIRE STEEL PLOW,

Right and left handed, with Standard Gauge and Index, for regulating the depth and width of the furrow, working equally well with two or three horses a-breast.

This is the plow that received the first Premium, together with a Silver Medal, for general purposes, at the Ohio State Fair.

They are also making the Premium Sub Soil Plow, together with Shovel Plows, Cultivators, Harrows, and Agricultural implements generally, of the very best styles and workmanship.

☞ Southwest corner of Maine and Franklin Streets, Richmond, Indiana.

January 1st, 1851;

MOWERS AND REAPERS.

THE undersigned are manufacturing at Urbana, Ohio,

HUSSEY'S REAPING MACHINE.

Which is the most substantial machine in use and has proved itself during the past season, superior to all others in cutting faster and cleaner and in cutting lodged grain. It does not get out of repair so easily and is not so liable to injury from stumps and other obstructions. Also

HUSSEY'S MOWING MACHINE,

Which has been much improved, and is now an invaluable machine to farmers having much meadow land.

Persons wishing either of the above machines, can only be certain of being supplied by sending their orders soon. Satisfactory reference as to the utility of the machines will be given to any person desiring it.

GATLING'S GRAIN DRILL,

Which received the premium at the Ohio State Fair, with stationar or moveable teeth, on hand for sale

All kinds of job work done to order.

MINTURN, ALLEN & CO.,

January 1st, 1851. Urbana, Ohio.

BEE HIVES.--HONEY.

THE celebrity of my moth-proof Bee-Hive has been such that it has obtained the first premium at the Franklin Institute, New York State Fair, and a large number of other agricultural societies. In order that the public may not be deceived and imposed upon, I here copy from my letters patent the following claim: 1st. A sash door with a woven wire screen, in combination with projecting parts of the Hive, so constructed as to form a recess or space in front of the Hive, of sufficient size to accommodate a cluster of Bees according to their habits of hanging outside the Hive, and so that they may be enclosed and protected whether outside or inside of the Hive, by closing the door at night, from the moths, as herein specified. Any Bee-Hives that may be offered for sale, embracing THIS essential arrangement, except under Dugdale's patent, is an infringement, and whoever engages in this dishonorable business will be likely to get into trouble.

Territory is yet for sale in New York, New England; Missouri, Kentucky, Illinois, and the central part of Pennsylvania. Letters may be addressed to JOSEPH A. DUGDALE,

March 1—1t. Marlboro', Chester co., Pa.

GRAPE ROOTS AND FRUIT TREES.

500 CATAWBA and ISABELLA Grape Roots, all of which bore fruit last season, for sale low. Also, a good selection of Apple and Peach Trees.

Inquire at the residence of Mrs. Latham, on Fourth Street.

Columbus, Feb. 15, 1851. S. CROSBY.

STRAW CUTTERS.

RICH'S Patent—3 sizes; Price $14, $18, and $25.

Sanford's Patent—two sizes; price $8 and $12.

Eastern made Hay and Straw Cutters, with knives on a cylinder, cutting against a hide roller; a strong, good article. Various sizes and prices, from $8 to $25; the larger size for driving by power.

Also, two other kinds working by lever hand power, the price is one $5, the other $10.

For sale by FOHN F. DAIR & Co.,

Feb. 1, 1851. Seed Stores, 40 & 42, Lower Market St., Cin.

PLOWS! PLOWS!! PLOWS!!!

WE are manufacturing, and have now on hand, the best article of Steel plow ever made in the western country, which we offer to the farmers at small profits. These Plows have been in use for a number of years in the Miami country, and used by many in Franklin county, and have given satisfaction wherever they have gone.

We have on hand Plows of various sizes and different patterns, suitable for bottom or upland, which we warrant to run well and scour in bottom land. We refer to a few of those that used them: Messrs. Charles L. Eaton and G. M. Peters, Franklin township; Messrs. Webster, Clinton township; N. Sawhill, Montgomery township.

ROBERTS & FINGER.

Columbus, Feb. 1, 3t.

Advertisements suited to the character of this paper, will be inserted at the rate of $1 for twelve lines or less, longer advertisements six cents per line the first time, and three cents each subesequent time—but none will be inserted more than four times, except in special cases.

THE MARKETS.

Ohio Cultivator Office, March 15, 1851.

We notice no changes of consequence in quotations of farm produce since our last. Flour and wheat continue very low, with no immediate prospect of rise. Pork and other provisions are in good demand at advancing rates.

CINCINNATI, March 14.—Flour (at wholesale) $3,40@3,50 per bbl. Wheat 68a70; Corn 36a38; Oats 35a37; Barley 65; Rye 60; Clover Seed $5,25a5,50 per bu.; Flax seed $1,75; Dried Apples 80a85c.; Peaches 1,25a1,50; Potatoes 70a75 cts. per bu.; Pork,—Mess, $12 per bbl.; Butter for packers 8a10c; fresh rolls 10a12½ to 14c; Cheese in good demand at 7a7½ for prime W. R.; Eggs 8a9c. per dozen.

NEW YORK, March 14.—Flour is in no better demand—$4,75, per bbl.; Wheat, prime $1,15a1,10; Corn 65a67c.; Flax seed 1,35a1,37; Clover seed 8¼a9c. per lb.; Pork,—new mess 13,25a13,50.

CLEVELAND, March 13.—Flour $3,75a4; Wheat 75; Corn 42; Oats 31; Clover seed $5; Timothy $2,75a3,25; Butter, keg 8a9c,—rolls 10a12; Cheese 6a6½c.

MASSILLON.—Flour 3,50a3,75; Wheat 70a72; Corn 33a35; Oats 31, Clover seed $4 50a4,75; Timothy 1,75a2,00.

COLUMBUS.—Flour 3,50a3,75; Wheat 65;corn 35; Oats 25a28; Clover seed $5; Timothy, $3,00; Hay $9a10 per ton; Potatoes 70a80 cts. per bu.; Apples 40a50c.

CLEVELAND SEED STORE AND AGRICULTURAL WAREHOUSE, No. 93, SUPERIOR, St.

THE Proprietors of this long established concern are now prepared to furnish their old customers and the public generally, with a choicer collection of Garden, Flower and Field Seeds than have before been offered in this market.

They would call particular attention to their Cauliflower, Cabbage, Turnip Seeds, &c., which they have imported the past winter direct from England; it being well known that such seeds do better when grown in a cold climate. The remainder were procured from such sour es in this country that they can guarantee them to be fresh and genuine.

They have a large and choice collection of imported Flower Seeds, consisting of the most desirable Annuals and Perennials, many of them being entirely new in this market.

Agricultural and Horticultural implements, consisting of Plows, Hoes, Rakes, Spades, Shovels, Garden Trowels, Straw Cutters, &c, &c., kept constantly on hand.

Merchants supplied with Seeds put up in papers, on which a liberal discount will be made.

All orders for Fruit Trees will be promptly attended to, and furnished at Nursery prices

☞ Cash paid at all times for Grass and Clover seeds.

They return sincere thanks to their friends and the public for the patronage extended to them during the past ten years they have been engaged in the Seed business, and hope by strict and careful attention to the wants of the public to merit a continuance of the same.

Catalogues are now ready, and can be had on application at the store. J STAIR & SON.

Cleveland, March 13, 1851.

FOREST CITY AGRICULTURAL WAREHOUSE AND SEED STORE.

MERWIN STREET, CLEVELAND.

THIS establishment will be opened for business about the first week in April next; and it is the intention of the proprietors that country dealers, farmers, horticulturists, nurserymen, and the public generally may always find a complete assortment of the best agricultural and horticultural implements, grass, field, garden and flower Seeds, etc., etc. One of the firm, well acquainted with the matters, is now East examining and collecting (to be forwarded here by the first steamer from Buffalo) an assortment as above, among which will be found, among the implements, Plows of various new and improved patterns, Corn Planters, Manure Forks, Pruning Knives and Shears, Spades, Hoes, Garden Trowels, Seed Sowers, etc., etc.

Among the seeds will be a stock of Timothy, Clover, and Orchard Grass, and of the more rare varieties for seeding down Lawns; also, many new and rare varieties of Vegetable seeds, and all from sources we can depend upon for correctness to name, and for being new and fresh.

We shall be prepared to supply Fruit and Ornamental Trees, Shrubs, Roses, &c., &c., of all known and desirable kinds, at prices as low as charged at any well established Nursery.

The increasing importance of Cleveland as the emporium of a great farming district, calls for the establishment of a depot exclusively for the sale of agricultural implements, seeds, &c.

AGRICULTURAL BOOKS.—We shall be supplied with a complete assortment of the standard works on Agriculture and Horticulture; also shall receive subscriptions and supply Agricultural papers as desired.

FERTILIZERS—Such as Guano, Bone Dust Charcoal Dust Plaster of Paris, &c, we shall keep always on hand.

WANTED, FOR CASH—Clover, Timothy, and other Grass Seeds; also, Wheat, Corn, Beans, Barley, Oats, and most other Country Produce, for which we will pay the highest market price.

GIRTY, ELLIS & ELLIOTT.

March 15, 1851.

NEW YORK & BUFFALO COMMISSION HOUSE.

THE undersigned offer their services to the Farmers and Produce Merchants of Ohio, to effect sales on commission, of Butter, Cheese, Wool, and other products designed for Eastern Markets. Liberal advances will be made on consignments.

(Mr. Philo Buckingham will give his particular attention to the sale of Wool.) *Buckinghams & Guthrie, New York.*

A. Buckingham, B. H. Buckingham, P. Buckingham, and J. W. McCulloh.

Buckinghams & Guthrie, Buffalo.

A. Buckingham, B. H. Buckingham, Philo Buckingham, and S. Guthrie.

March 15, 1851†

Great Chance for Book Agents to make Money.

C. M. SAXTON, Agricultural Book Publisher, 123 Fulton st., New York, has the pleasure to announce to the public that he has made large additions to his list of Books adapted to the wants of *Farmers* and all others interested in Agriculture, Rural and Domestic Economy. C. M. S. is now prepared to offer great inducements to responsible and energetic Traveling Agents, and surely no person can fail to sell a large number of each of the Books named below. The publisher keeps a large supply on hand, and will furnish to order any quantity at short notice.

N. B. It is necessary for every person who applies for an agency to have a *cash capital* of from $30 to $100, as we do business on the *cheap cash plan*. Address, post-paid, C. M. SAXTON, Agricultural Book Publisher, New York.

AMERICAN FARM BOOK; or, Compend of American Agriculture Containing a concise and plainly written Exposition of Duties pertaining to the Cultivation of the Earth, the Management of the Farm, &c., &c., on practical scientific principles. By R. L. Allen. Price, in cloth, $1: mail ed., paper cover, 75 cts.

TREATISE ON DOMESTIC ANIMALS (Illustrated). Being a history and description of the Horse, Mule, Cattle, Sheep, Swine, Poultry, and Farm Dogs, with Directions for their Management, Breeding, Crossing, Rearing, Feeding; also, Directions for the Management of the Dairy. By R. L. Allen. Price, cloth, 75 cts.; mail ed., paper cover, 50 cts.

AMERICAN POULTRY-YARD. Comprising the Origin, History and Description of the Different Breeds of Domestic Poultry, with Directions for their Breeding, Crossing, Rearing, Fattening, &c. By D. J. Browne and Samuel Allen. Illustrated by numerous engravings. Price, cloth, $1: mail ed., paper cover, 75 cts.

AMERICAN BIRD-FANCIER; considered with reference to the Breeding, Rearing, Feeding, Management and Peculiarities of Cage and House Birds. By D. J. Browne. Illustrated with Engravings. Price, cloth gilt, 50 cts.; cheap ed., paper, 25 cts.

COMPLETE FARMER, and RURAL ECONOMIST. By Thomas G. Fessenden.

AMERICAN GARDENER. Containing Practical Directions on the Culture of Fruits and Vegetables, Landscape and Ornamental Gardening, &c., &c. By Thomas G. Fessenden. The two works bound together, making about 700 pages, mail ed., $1.

PRIZE ESSAY ON MANURES, submitted to the Trustees of the Massachusetts Society for Promoting Agriculture. By S. L. Dana. Price 25 cts.

ELEMENTS OF AGRICULTURAL CHEMISTRY AND GEOLOGY. By James F. W. Johnston. Price, cloth, 50 cts.

LECTURES ON THE APPLICATIONS OF CHEMISTRY AND GEOLOGY TO AGRICULTURE. By James F. W. Johnston. New edition, with an Appendix, containing suggestions for Experiments in Practical Agriculture. Price, cloth, $1 25; paper cover, for mail, $1.

LECTURES ON THE GENERAL RELATIONS WHICH SCIENCE BEARS TO AGRICULTURE, delivered before the New York State Agricultural Society. By James F. W. Johnston. With Notes by an American Farmer. Price, cloth, 75 cts.; mail ed., paper, 50 cts.

FAMILY KITCHEN GARDENER. Containing plain and accurate descriptions of all the different species and variety of Culinary Vegetables, with the best mode of cultivating them in the Garden or under Glass, &c., &c.; with twenty-five engravings. By Robt. Buist. Price, cloth, 75 cts.; paper, 50 cts.

AMERICAN BEE-KEEPER'S MANUAL. Being a Practical Treatise on the History and Domestic Economy of the Honey-Bee. By T. B. Miner. Price, cloth, $1; paper, 75 cts.

SHEEP HUSBANDRY. Comprising a Treatise on the Acclimation of Sheep in the Southern States; also, a Complete Manual of Breeding, Summer and Winter Management, and of the Treatment of Diseases; with seventy-five Illustrations. By Henry S. Randall. Price, cloth, $1 25; paper cover, for mail, $1.

BOOK OF THE FARM. Detailing the labors of the Farmer, Steward, Plowman, Hedger, Cattle Man, Shepherd, Field Worker and Dairy Maid. With numerous Engravings. By Henry Stephens. To which are added Explanatory Notes Remarks, &c. By John S. Skinner, Esq. Forming two volumes octavo, of over one thousand pages. Price, $4.

CHEMISTRY MADE EASY FOR FARMERS. By J. Topham. Price, 25 cts.

THE AMERICAN ARCHITECT. The cheapest architectural work ever published in the United States. Carpenters and others designing to build would find this publication to be a valuable aid. Country builders, especially, would derive substantial assistance from the Details and fully particularized Specifications. It consists of Original Designs of Country Dwellings. Each number contains a Perspective View, two Elevations, two Plans, a Plate of Details, and a fully-described Carpenter's and Mason's Specification. Now complete, in 24 numbers, at 25 cts. each, or $5 for the 24 numbers; $6, bound in 2 vols.

DOMESTIC MEDICINE; or Poor Man's Friend in the Hours of Affliction, Pain and Sickness. By J. C. Gunn. It contains 900 pages octavo, at the low price of $3.

March 1, 1850.